

PATENT

Claim Amendments:

Please amend the claims as indicated:

- [Handwritten: Sell E24]*
- [Handwritten: X]*
1. (Currently Amended) A method of handling errors in a system for receiving packet streams, the method comprising the steps of:
enabling detection of a condition that identifies as an error a packet stream that is scrambled, the enabling by asserting a field of a register;
determining if a received packet is scrambled; and
performing an error recovery operation.
 2. (Original) The method of claim 1, wherein the packet stream is a transport stream packet.
 3. (Original) The method of claim 1, wherein the packet stream is a packetized elementary stream.
 4. (Previously Amended) The method of claim 1, wherein as a result of performing the error recovery operation, the received packet is disregarded.
 5. (Original) The method of claim 4, wherein the received packet being disregarded includes the received packet being dropped.
 6. (Original) The method of claim 4, wherein the packet stream packet being disregarded includes the received packet being ignored.
 - * 7. (Currently Amended) The method of claim 1, wherein ~~enabling error detection~~ enabling detection of a condition that identifies as an error includes the field of the register being an interrupt enable field.

8. (Previously Amended) The method of claim 1, wherein determining includes determining if the header information of the received packet indicates scrambling. ✓
9. (Previously Amended) The method of claim 1, wherein determining includes determining if the payload information of the packet stream packet payload is scrambled. ✓
10. (Previously Amended) The method of claim 9, wherein the payload information includes transport stream payload data. ✓
11. (Previously Amended) The method of claim 9, wherein the payload information includes packetized elementary stream payload data. ✓
12. (Currently Amended) A method of handling errors in a system for receiving packet streams, the method comprising the steps of:
enabling hardware detection of a condition, the enabling by asserting a field of a register,
the condition that identifies an asserted indicator in a packet as a recognized error;
receiving the packet;
determining if the packet includes the asserted indicator; and
performing an error recovery operation when the packet includes the asserted indicator.
13. (Original) The method of claim 12, wherein the packet is a transport packet.
14. (Original) The method of claim 12, wherein the packet is a packetized elementary stream.
15. (Previously Amended) The method of claim 12, wherein enabling includes the field of the register being an interrupt field.
16. (Previously Amended) The method of claim 12, wherein the error recovery operation includes sending an error code to a video decoder to indicate the received packet has an asserted error indicator.

17. (Original) The method of claim 16, wherein the error code sent to the video decoder includes sending the error code in a compressed video bit stream.

18. (Previously Amended) The method of claim 12 further comprising :
maintaining an asserted error count, whereby the count is incremented when the received packet includes an asserted error indicator;
maintaining a packet count, whereby the packet count is incremented when the packet is received; and
determining an asserted error rate based upon the asserted error count and the packet count.

19. (Previously Amended) The method of claim 18, wherein determining an asserted error code is performed in response to an external request.

20. (Currently Amended) A method of handling errors in a system for receiving a packet stream, the method comprising the steps of:
enabling detection of a condition, the enabling by asserting a field of a register, the condition that identifies a continuity discrepancy as a recognized error;
determining if the continuity discrepancy exists by the substeps of:
receiving a continuity count from a first packet;
receiving a continuity count from a second packet;
determining if the continuity discrepancy exists based upon the continuity counts from the first and second packet; and
performing an error recovery operation when a discrepancy exists.

21. (Previously Amended) The method of claim 20 further comprising the step of:
maintaining a continuity discrepancy count, whereby the continuity discrepancy count is incremented when a continuity discrepancy is detected between the first and second packet;
maintaining a packet count, whereby the packet count is incremented to indicate the first and second packets are received; and

determining a continuity error rate based upon the continuity discrepancy count and the packet count.

22. (Previously Amended) The method of claim 21, wherein determining the continuity error rate is performed in response to an external request from at least one of a transmitting office or head-end device.

23. (Previously Amended) The method of claim 21 further comprising the step of: generating an error indicator for transfer to a first external device.

24. (Previously Amended) The method of claim 23, where external devices include one of a host processor device and an MPEG video decoding engine device, and where the first and second packets contain video data.

25. (Currently Amended) A method of handling errors in a system for receiving packetized elementary streams, the method comprising the steps of:
enabling detection of a condition, the enabling by asserting a field in a register, the condition that identifies syntax errors in a packetized elementary stream as a recognized error;
determining if a syntax error exists by
receiving a header portion of a packetized elementary stream;
determining if a predetermined syntax condition of the header portion is met, where the syntax error exists if the syntax conditions are not met; and
performing an error recovery operation when a syntax error exists.

26. (Original) The method of claim 25, where the predetermined syntax condition is a fixed bit pattern.

27. (Original) The method of claim 25, where the predetermined syntax condition is a value range.

28. (Original) The method of claim 27, where the value range indicates a legal field length.
29. (Original) The method of claim 25, where the predetermined syntax condition is based on a previous packet.
30. (Original) The method of claim 29, where the predetermined syntax condition is non-repeated packets.
31. (Original) The method of claim 25 further comprising the step of:
generating an error indicator for a video engine when the packetized elementary stream contains video data.
32. (Currently Amended) A ~~method handling~~ method of handling errors in a system for receiving packet stream packets, the method comprising the steps of:
receiving at least a portion of a packet;
determining if an error occurred based upon the portion of the packet;
setting a register field to enable sending an error indicator;
sending an error indicator, when the register field is set, to a video decoder processor when it is determined the error occurred.
33. (Previously Amended) The method of 32, wherein receiving at least a portion of a packet includes the portion of a packet including a transport packet header.
34. (Previously Amended) The method of claim 33, wherein receiving at least a portion of a packet includes the portion of the packet being a packetized elementary stream header.
35. (Previously Amended) The method of claim 32, wherein determining if an error occurred includes determining if an error bit in the at least a portion of the packet is enabled.
36. (Previously Amended) The method of claim 32, wherein determining if an error occurred includes determining if an error occurred based upon at least a portion of the packet.

37. (Previously Amended) The method of claim 32, wherein determining if an error occurred includes determining if an error occurred based upon a continuity counter.

38. (Previously Amended) The method of claim 32, wherein the step of sending an error indicator to the video decoder processor includes sending the error code when at least the portion of the packet is at least a portion of a video packet.

39. (Original) The method of claim 32, wherein the step of sending an error indicator includes sending the error code in a video stream.

40. (Previously Amended) The method of claim 39, wherein the step of sending an error indicator includes sending the error code in place of a compressed video stream.

41. (Previously Amended) The method of claim 32, wherein the step of sending an error indicator includes the error code having a hexadecimal value of 0x000001B4.

42. (Original) The method of claim 32 further comprising the step of:
determining if an error occurred based upon an error signal.

43. (Original) The method of claim 41 further comprising the step of:
determining if the error occurred based upon an error signal.

44. (Previously Amended) The method of claim 32, wherein sending an error indicator further includes sending the error indicator when the error signal is asserted after a packet identifier is received as a portion of the packet.

45. (Canceled) A system for handling packet stream errors, the system comprising:
an input for receiving at least a portion of a packet;
a parser having an input coupled to receive the at least a portion of the packet, and having an output;

an error detector, to detect an error in the at least a portion of the packet, having an input coupled to the output of the parser, and having an output to provide an error indicator; and
a compressed video data node coupled to the output of the error generator.

46. (Previously Added) A method of handling errors in a system for receiving packet stream packets, the method comprising the steps of:
asserting a first register field of the system to enable detecting as an error condition a received packet having a scrambled portion; and
negating the first register field of the system to disable detecting as an error condition the received packet having a scrambled portion; and
performing an error recovery operation when the received packet has the scrambled portion and the register field is asserted.

47. (Previously Added) The method of claim 46, wherein performing the error recovery operation comprises the received packet being a transport packet.

48. (Previously Added) The method of claim 46, wherein performing the error recovery operation comprises the received packet being a packetized elementary stream (PES) packet.

49. (Previously Added) The method of claim 46, wherein performing the error recovery operation comprises dropping a packetized elementary stream (PES) when the received packet is a scrambled transport packet.

50. (Previously Added) A method of handling errors in a system for receiving packet stream packets, the method comprising the steps of:
setting a first register field of the system to one of a first enabling value and a first negating value, where the first enabling value enables detecting a condition with a packetized elementary stream (PES) header as an error and the first negating value disables detecting the condition on the PES header as the error; and
performing a first error recovery operation when the error is detected on the PES header.

51. (Previously Added) The method of claim 50, wherein performing the first error recovery operation comprises not sending PES payload associated with the PES header to a video decoder.

52. (Previously Added) The method of claim 50 further comprising:
setting a second register field of the system to one of a second enabling value and a second negating value, where the second enabling value enables a second error recovery operation.

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53. (Previously Added) The method of claim 52, wherein the first error recovery operation comprises not sending PES payload data associated with the PES header to a video decoder memory, and the second error recovery operation comprises sending an error code to the video decoder.

54. (Previously Added) The method of claim 52, wherein the second error recovery operation comprises sending an error code to the video decoder.

55. (Previously Added) The method of claim 50 further comprising:
setting a second register field of the system to one of a second enabling value and a second negating value, where the second enabling value enables parsing of a video transport packet having an asserted transport error indicator (TEI) bit, and the second negating value enables rejection of all video transport packets having the asserted TEI bit.

56. (Previously Added) The method of claim 55 further comprising:
setting a third register field of the system to one of a third enabling value and a third negating value, where the third enabling value enables insertion of an error code into a video buffer, and the third negating value enables insertion of an error code into the video buffer when the TEI bit is asserted.

57. (Currently Amended) The method of claim 40, further comprising:
sending no payload data for a packetized elementary stream (PES) associated with the
packet until a new PES header ~~is start code~~ header start code is found.

58. (Previously Added) A method of handling errors in a system for receiving transport
packets, comprising:

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monitoring a plurality of transport packets in a data stream;
sending a first status code to a destination to indicate no error has occurred with respect
to a specific transport packet; and
sending a second status code to the destination to indicate the transport packet is
scrambled and is part of a packetized elementary stream.

59. (Previously Added) A method of handling errors in a system for receiving packet
stream packets, the method comprising the steps of:

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enabling detection of an error condition;
receiving a request from a transmitting office to provide specific error information
relating to the reception of transport packets for a motion picture expert group
data stream;
requesting a first data from a hardware device in response to receiving the request from
the transmitting office; and
providing the specific error information to the requesting office, where the specific
information is based on the first data.

60. (Previously Added) The method of claim 59, wherein requesting the first data
comprises configuring the hardware device to enable detection of an error condition.

61. (Previously Added) The method of claim 60, wherein requesting the first data
comprises the first data includes a continuity discrepancy count and a packet count.